Book Reviews.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. de Schweinitz, A.M., M. D., Professor of Ophthalmology in the Jefferson Medical College, etc. Philadelphia. W. B. Saunders, 1899, pp. 700, with 255 illustrations and 2 colored plates.

This new edition of de Schweinitz's text-book is the third since its first appearance in 1892. It contains much new matter and is brought well up to date, forming a representative exposition of the art of ophthalmology as practised in this country to-day. Without going deeply into questions of pathology, or entering upon prolix discussions of unimportant matters, it offers concise, clean-cut descriptions of disease, and detailed, practical rules of treatment. There is noticeable an absence of repetition, and also of that haphazard jumbling together of undigested extracts from different sources which too often characterizes the larger text-books, when the author, aiming at completeness, usually arrives only at confusion. The chapters of chief neurological interest, those on affections of the optic nerves and on disturbances of the ocular muscles, while not long, are clear and to the point. The matter in the book is arranged systematically and in a way that is convenient for reference. Descriptive terms have been well chosen, as a rule, and the purist in language will only regret that the author has followed a common German practice in employing the hybrid word pericorneal, when he had at his service either the pure Latin derivative circumcorneal, used by English writers, or the pure Greek derivative perikeratic, used by the French.

Ward A. Holden.

Die Leitungsbahnen im Gehirn und Rückenmark. By W. v. Bechterew. Second edition, completely revised and enlarged. German, by Richard Weinberg. Leipzig: Arthur Georgi, 1899.

v. Bechterew's book is an old friend in a new guise. The volume with which we were all familiar has grown to two or three times its former size; new material has been added, and the old has been rewritten. v. Bechterew is one of the most voluminous writers in the world, and he excites our wonder by the amount of original work he is able to accomplish. His "Leitungsbahnen" represents his own investigations and those of the students in his laboratory, but neurological literature is by no means ignored. It is not a mere compilation from other books, but bears the unmistakable stamp of original thought. It is a work on anatomy that one may be glad to consult, even though he may hold different views from the author.

The chapter on the conducting tracts of the spinal cord differs very considerably from the corresponding chapter in the former edition. Many disputed points are mentioned. Fibers from the column of Clarke and from the central cell groups of the gray substance are said to pass through the anterior commissure to the opposite side of the cord, although some fibers from these cells go to the white matter of the same side. All these fibers are closely connected with the posterior roots, and the theory of a partial decussation of the sensory tracts within the spinal cord by means of a second series of neurons seems to have some support. This would explain better than anything else the Brown-Séquard symptom-complex.

v. Bechterew refers to some experiments done in his laboratory, in which ascending degeneration was found in the lateral ground bundle of each side of the cord after the posterior roots in the dog were divided. This was evidently a degeneration of central sensory neurons following a lesion of peripheral, and as such is remarkable. It seems strange that a similar condition has not been observed in man. In experimentation there is always the possibility that the anterior portions of the cord may be injured in attempting to cut posterior roots. We may be pardoned for desiring further confirmation of the statement that central sensory neurons degenerate quite rapidly, or even slowly, as a result of lesion of peripheral sensory neurons. This whole subject is at present under discussion, and Van Gehuchten has found it necessary to modify certain statements made by him which seemed to indicate that such secondary degeneration in sensory neurons occurs.

It is important to bear in mind in doing experimental work that in higher vertebrates, even the dog and the cat, an anterior pyramidal tract does not exist, and that in the place of this an uncrossed lateral pyramidal tract is found. The German reads almost as though the statement were made that the pyramidal tract in those animals does not decussate: . . . "fehlt eine vordere Pyramidenbahn vollständig, statt dessen ist ein ungekreuzter Pyramidenseitenstrang vorhanden." v. Bechterew evidently does not intend to deny the decussation of the motor fibers.

The presence of the "intermediate bundle" within the crossed pyramidal tract, and the origin of this bundle in the cerebellum, seem to lend some anatomical support to the theory that motor fibers (Van Gehuchten) pass from the brain to the spinal cord by way of the cerebellum. v. Bechterew believes that in addition to the "intermediate bundle," a tract exists, anterior to the crossed pyramidal tract, having its origin in the thalamus and descending to the cord through the Forel decussation.

The fibers described by v. Bechterew as the olivary tract seem to have their origin in the lower olive, although this has not been positively determined.

According to v. Bechterew, the "pupillary fibers" pass with the optic nerve to the chiasm, decussate partially here, ascend in the optic tract to the external geniculate body, and reach the oculomotor centers, with partial decussation, through the posterior portion of the thalamus and the posterior cerebral commissure. An isolated lesion of the external geniculate body, or of the anterior corpora quadrigemina does not destroy the reaction of the pupil to light.

v. Bechterew believes that different fibers exist for the different forms of sensation; the fibers of the lateral columns conducting sensations of pain and touch, and those of the posterior columns the muscular sensation.

He mentions that attempts have been made to determine the motor areas in the human cortex by electrical irritation, but he does not allude to the fact that American investigators have been especially active in this form of experimentation. The carefully written paper by Lemacq gives proper credit to our countrymen for information obtained by this method.

It is a strange fact that the motor fibers for different portions of the body are separated within the internal capsule, but that in the lower parts of the central nervous system they are intimately mingled. This, however, seems to be the generally accepted teaching.

The lateral bundle of the cerebral peduncle is said to arise in the temporal lobe and, to a less extent, in the occipital lobe; in this v. Bechterew differs from Dejerine.

Space does not permit a thorough review of all the interesting statements found in this book. It is a volume of 692 pages, is profusely and well illustrated, and contains very many references to the literature. Every part of the central nervous system receives a very careful study.

SPILLER.